AST-1900 Ultraviolet-Visible Spectrophotometer

I. Product Features

◆ Dual-beam proportional monitoring optical system, 1200 lines/mm high-performance imported grating

◆ The instrument adopts an 8mm optical base and a suspended optical system design, which is solid and reliable, ensuring that all parameters meet high standards

◆ The instrument adopts modular design, with distinct functional areas, facilitating identification and maintenance

◆ The instrument uses a 128*64 dot matrix liquid crystal display, capable of displaying multiple sets of data per screen

◆ It adopts a sine screw structure, with a unique and advanced design, providing high precision

◆ It uses a professionally optimized circuit system, low power consumption, energy saving, and the lifespan of the lamp source can be extended by one-third

◆ It adopts a classic optical path design, with strong energy at the end points of the light

path and high resolution, and the instrument is compact in size

◆ The instrument uses a digital processing system for precise processing of photoelectric conversion, electrical signals, and digital signal conversion

◆ The unique air circulation system ensures that the internal temperature of the instrument is relatively balanced, maintaining the stability of the working environment of the internal components

◆ The large sample chamber can accommodate 5-100mm cuvettes and supports various accessories required for testing

◆ The flange base type deuterium lamp and socket type tungsten lamp design allows for lamp replacement without optical adjustment

◆ The fully sealed structure and the SiO2 protective film on all optical mirrors completely reduce the influence of external gases and the environment on optical components

◆ It uses a digital touch film keyboard for convenient user input of wavelength, concentration, time, etc.

◆ The standard equipment includes ScanSoft's scanning software, which can directly

complete photometric measurement, quantitative testing, qualitative testing, kinetic testing, multi-wavelength testing, DNA/protein testing, and data mapping processing

II. Product Functions

System functions

◆ Storage Function: It can store 200 sets of data and standard curves. The data can be read directly through page turning. They can be called up at any time by the serial number and the data can be retained even after power loss.

◆ Printing Function: It can be directly connected to a printer to print the test data and curves.

◆ Online Function: Utilizing the USB data port, it is possible to easily select and configure software to achieve online operation.

◆ Self-check Function: Upon startup, it conducts self-checks on various key parameters and main components to ensure that the instrument always operates under a normal system configuration.

◆ Self-calibration Function: The instrument has wavelength calibration and dark current

correction functions, which can eliminate deviations caused by long-term use and ensure the accuracy of the instrument's measurements.

◆ Other System Functions: Light source switch, automatic light source switching settings, time settings, factory reset, etc.

Testing Function

◆ Basic Functions: Transmittance, absorbance, concentration, energy, etc. measurement functions

◆ Standard Curve: Can establish a standard curve through single-point sampling or multi-point sampling, and use the newly created standard curve to quantify sample concentrations

◆ Coefficient Method: Can determine sample concentrations by directly inputting the coefficients of the curve equation

III. Product Specifications

Wavelength range: 190 - 1100 nm

Spectral bandwidth: 2 nm

Wavelength accuracy: ±0.8 nm

Wavelength repeatability: ≤0.2 nm

Wavelength setting: Automatically set wavelength, with wavelength resolution of 0.1 nm

Absorbance accuracy: ±0.3%T (0 - 100%T)

±0.002 Abs (0 - 0.5 Abs)

±0.004 Abs (0.5 - 1.0 Abs)

Absorbance repeatability: ≤0.15%T (0 - 100%T)

≤0.001 Abs (0 - 0.5 Abs)

≤0.002 Abs (0.5 - 1 Abs)

Scattered light: ≤0.1%T

Baseline drift (stability): ±0.002 A/h

Baseline straightness: ±0.002 A

Measurement mode: Transmittance T, Absorbance A, Concentration C, Energy E

Noise level: ±0.001 A

Absorbance range: 0 - 200%T, -0.3 - 3.0 Abs, 0 - 9999 C

Scan speed: Three adjustable speeds: high, medium, and low

Keyboard: Digital touch film keys

Data output: USB interface

Print output: Parallel port, micro printer; PC printer (for connection)

Display system: 128*64 dot matrix large screen LCD

Detector: Imported silicon photodiode

Light source: Imported long-life deuterium lamp, tungsten lamp

Dimensions: 460*380*180 mm

Power supply: AC 220V/50Hz or 110V/60Hz

Weight: 18 Kg